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**Description of DE4001041**

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The invention relates to a mounting ring after the features indicated in the preamble of the claim 1.

A such mounting ring comes out for example from in the DE 34 28 488 C2 represented shaped-charge warhead. The interiorlateral arrangement of the attachment ring at sheath of the warhead serves here the front fixation of a shaped-charge insert. The arrangement of the attachment ring before the shaped-charge insert does not harm the same, because the formation of a central shaped-charge jet does not become substantial affected by the mounting ring.

However the edge region of the insert is critical for the tail training of the projectile, with a projectile-formed charge. With the use of a ring the hindered undeformed range of the ring the projectile training serving at the warhead covering interiorlaterally fixed and the axial support of a projectile-formed insert (agony situation), whereby are possible with the insert wastes at the edge of insert, which can lead to performance-reducing tail training.

Object of the invention is it to train the mounting ring initially specified so and/or. at the warhead to arrange, D before the firing delivery of the warhead a safe axial fixation of a agony situation of ensured is and during the detonation phase unimpaired projectile training by the insert possible is.

Dissolved one becomes this object by the features listed in the characterizing part of the claim 1.

Advantageous embodiments and developments of the invention come out from the features of the Unteransprüche.

The invention possible it in advantageous manner one to the axial fixation of the agony situation during the firing procedure of an inertial projectile and the output procedure from the same required fixing beginning either by loosening of the whole ring or of ring segments of the sheath of the warhead or by separations of the radial inward pointing fixing beginning from the mounting ring to remove the fixing beginning from the moving path the agony situation before the formation of the complete projectile.

To optimize the invention allowed it in other advantageous manner the measures of the ring beginning and by varying the beginning-prolonged and beginning-thick of the intensity of the load, required to the axial fixation, and/or. to adapt the case of load. So it can already be sufficient for example during comparatively low load to implement the beginning-prolonged and the beginning-thick only few tenths of a millimeter so that the tracing formation becomes also only insignificant gestör.

The receptacle large becoming loads also the beginning-prolonged and the beginning-thick can become large practiced.

▲ top To solve in addition the possible invention for the guarantee of an unimpaired tracing formation on the one hand the whole mounting ring front from the warhead covering to, so that to the time of a diameter reduction incoming during the tracing formation the projectile can travel through unimpaired by the mounting ring or that radial detaching of the ring segments of the warhead

covering a troublefree tracing formation ensured, made by a Ringsegmentierung. On the other hand a break section can provide for a timed Abtrennung of the fixing beginning of the mounting ring, taking place before the tracing formation, for unimpaired projectile training.

The invention becomes on the basis several embodiments of the closer explained represented in the designs.

It shows:

Fig. 1 a warhead with agony situation and a mounting ring to the axial support of the agony situation in the half-section,

Fig. 2 an axial and radial agony situation in a partial section, resting against the mounting ring,

Fig. 3 an enlarged view of one in the Fig. 1 detail characterized with III,

Fig. 4 a mounting ring in a plan view, existing from partial segments,

Fig. 5 a schematic representation of disturbed projectile training with a known rigid mounting ring disposed at the warhead covering,

Fig. 6 a schematic representation of unimpaired projectile training, as it arises by the invention.

In the Fig. 1 are with 10 a mounting ring, with 12 a projectile-formed insert (agony situation), with 14 an explosive charge and with 52 an igniting and a transmission unit of a warhead 18 designated. The projectile-formed insert 12 limited the front explosive charge 14 and rests to outside against the inside of the warhead covering 16.

The warhead 18 is preferably formed as submunition bodies and becomes for example one above the other stacked in not represented manner of a load projectile into a target area transported, over this from the inertial projectile ejected and subsequent for the fight of the target ignited. To the formation of a projectile 48 Fig. 6) becomes the explosive charge 14 in known manner of the igniting and transmission unit 52 ignited.

The insert can be in actual known manner within the warhead pressed and/or bonded. These connections rich however alone not out, in order to take up with the firing of the inertial projectile or the forces arising with the ejection of the warhead from the inertial projectile. resultant irreversible changes of position and/or deformations of the insert, for example shifting, tilting or even falling out the insert 12 from the warhead covering 16, can affect the later projectile-formed formation negative.

Known solutions, with which the insert is interiorlateral at the warhead covering 16 for example by a welding or a screw connection fixed, lead to significant outlet disturbances of the projectile 46 (Fig. 5).

For example a known initially described and interiorlaterally in the sheath mounting ring 24 incorporated prevents 16 before the insert 12 - as it in the Fig. 5 shown actual the edge of insert at the formation of achievement-increasing tail training thereby that the edge of the insert 12 disintegrates by that rigid ring 24 into fragments 50 fixed at the warhead covering 16 and thus a projectile 46 develops, in its outlet and in its later flight behavior disturbed is and thus no controlled flight the possible.

In the various embodiments in the Fig. 1 to 4 represented mounting ring 10 contains however, to the front attachment of the insert 12, an hollow cylinder 22 inverted around an outside covering paragraph 20 and inward a pointing fixing beginning 24 radial before the projectile-formed insert 12 as well as the bottom detonation pressure effective becoming means 28, 30, 32, 34, 40 for outside detaching of the attachment ring 10 from the warhead covering 16 or to the separation of the fixing beginning 24 from the mounting ring 10.

In accordance with the Fig. the boundary surfaces 26 of the hollow cylinder 22 and the covering paragraph 20 by connection means 28, 30, for example an adhesive binding or, can do 1 like it the Fig. , by a weld connected shows 2 its, whereby the respective compound is so practiced that the bottom detonation effect a separation of the attachment ring is 10 16 possible of the warhead

covering.

This separation made with the detonation of the explosive charge 14 of the bottom 10 detonation clouds acting in axial direction 36 on the mounting ring, whereby the mounting ring 10 to beginnings of the formation of the projectile 48 (Fig. 6) from the sheath solves 18, so that a projectile tail reduced in the diameter can leave the range of the attachment ring 10.

In accordance with Fig. 1 rests the insert 12 outside against the inside of the approach 20 of the warhead covering 16, whereby a simple Laborierung and a direct explosive catch are possible.

In accordance with Fig. the insert 12 outside rests to 2 against a hollow cylinder beginning 54, whereby favourably with the detonation of the charge 14 for example by the Aufbeulung of the insert 12 and the immediate cloud pressure the mounting ring 10 additional in radial direction 56 (Fig. 4) moved becomes.

To the receptacle the fixing beginning 24 can exhibit different axial loads a different length  $l$  and thickness  $A$ . With small axial loads the length  $l$  can amount to 0.2 mm and with larger loads for example 14 mm. The thickness  $A$  can amount to with small loads 0.2 mm with larger loads 2 mm. In order to avoid influences of noise with large becoming fixing beginning 24 on the projectile training, is one in the Fig. 3 represented break section 32, 34 for a defined separation of a partial volume of the attachment ring 10 provided located in the axial range of movement of the insert 12. The break section 32 is disposed as circumferential groove formed and can the maxialen insert diameter  $D$  a corresponding diameter exhibit as well as the insert 12 axial opposite at the fixing beginning 24 be.

Alternative one can be the break section 34 as circumferential ring slot at the transition of the axial lateral surface 26,1 to the radial base 26,2 of the hollow cylinder 22 disposed.

The Fig. it shows 4 that the mounting ring 10 additional can separate to the before-described actions the also bottom spin effect of the warhead 18 in radial direction 56 from the warhead covering 16. In addition the mounting ring 10 from at least two attachment ring part segments 38 exhibiting, which can be held together so long by a not represented fuse, exists a same Umfangswinkel, until the separation becomes initiated by spin dismantling. In the represented embodiment three partial segments are 38 shown, which exhibit radial directed contact surfaces 40 and a recess 42 for troublefree detaching outward opposite a spin safety lock pin 44 fixed at the warhead covering 16.

The mounting ring 10 can consist of a material independent of the insert 12 and the warhead covering 16, for example of steel. Reference symbol list 10 mounting ring

12 insert

14 charge

16 sheath

18 warhead

20 covering paragraph

22 hollow cylinders

24 fixing beginning

26 boundary surface

26,1 lateral surface 26,2 base

28, 30 connection means

32, 34 break section

36 axial direction

38 partial segment

40 contact surface

42 recess

44 spin safety lock pin

46 projectile

48 projectile

50 fragments

52 igniting and transmission unit

54 hollow cylinder beginning

56 direction

D = diameter

l = length

A = thickness